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THE 10- TO 14-YEAR-OLD CHILD EXPERIENCES EXTENSIVE PHYSICAL, EMOTIONAL, AND COGNITIVE CHANGES. THIS TRANSITION CONSTITUTES A UNIQUE STAGE IN THE DEVELOPMENTAL PROCESS OF THE CHILD. THE AUTHOR SUGGESTS THAT THE EXISTING ORGANIZATIONAL STRUCTURE OF OUR EDUCATIONAL SYSTEM IS INADEQUATE FOR THESE YOUNGSTERS AND THAT IT IS NECESSARY TO ADOPT THE MIDDLE SCHOOL DESIGN TO MEET THE EMERGING NEEDS OF THE CHILD. THIS PAPER WAS PRESENTED AT THE CONFERENCE ON "THE MIDDLE SCHOOL--RATIONALE AND DEVELOPMENT," (UNIVERSITY OF PITTSBURGH, PENNSYLVANIA, DECEMBER 11, 1967). (DG)

Rationale for Emergence - A Look at the Middle School

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by

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The American educational system has been organized and reorganized into almost every conceivable combination of grade levels. Included at one time or another have been plans consisting of 1-12, 6-6, 8-4, 6-2-4, 6-3-3, 5-3-4, 4-4-4, 7-5, 7-2-3 and assuredly others. It seems essential in any discussion of an organizational change to question from the outset the scope of such change. Is the middle school merely another regrouping of grades in what appears to be an endless series of numerical stratagem, or is the middle school a concept involving substance and fundamental purpose?

In seeking an answer to these basic questions, one is awed at the magnitude of the task. The reasons why at this juncture of organizational development for an altered transitional school pattern to emerge are indeed complex. Obviously, we are examining youngsters interacting in an educational context; however as with all facets of education, we are in a broader sense dealing with youngsters and their interaction with society.

In this paper, the attempt is made to analyze these interrelated forces - youngsters, education, and society - as they apply to the middle school. Certainly, one can not realistically assume that any such attempt will be comprehensive; hopefully, the effort will extend beyond superficiality.

Specifically, the middle school is an organizational level for the education of youngsters between the elementary childhood years and the high school adolescent years, or as Alexander[1] puts it, "The emergent middle school may be best thought of as a phase and program of schooling

bridging but differing from the childhood and adolescent phases and programs." It is in this dimension that the writer purports to discuss its rationale.

An emerging organizational pattern logically suggests that there be fundamental causes for its emergence. Clearly these causes must be defined as philosophic as opposed to scientific. There appears in the literature little if any research evidence to support a well defined set of causal factors. While scholars such as Cuff[2] have provided an excellent understanding of the degree to which the middle school movement has occurred, few researchers have had the opportunity to collect data as to cause or validity for its existence.

In this context, it seems plausible to submit for analysis certain basic assumptions that may be investigated in light of current knowledge thus providing some basis for a middle school rationale.

Assumption: <u>Youngsters in the years 10 to 14 constitute a distinct stage of development involving similar physical, social, emotional, and mental characteristics</u>.

It seems fundamental in any effort to establish a rationale for a middle school organization that some evidence be presented to the effect that youngsters in these years possess compatible characteristics. If this is not the case, what possible justification can there be for segregating students between the elementary and high school years other than for convenience of operation?

In this regard, Eichhorn[3] suggests the concept of transescence and defines this term in the following way:

> Transescence is the stage of development which begins prior to the onset of puberty and extends through the early stages of adolescence. Since puberty does not occur precisely

> at the same chronological age in human development, the transescent designation is based on the many physical, social, emotional and intellectual changes that appear prior to the puberty cycle to the time in which the body gains a practical degree of stabilization over these complex changes.

Transescence is characterized by physical transition. Stolz and Stolz[4] state:

> Usually between the ages of eight years and twelve years among boys there commences a sequence of changes in velocity of increase in height, body breadth and body depth, in heart size, lung capacity, muscular strength, and other structures and functions. This particular sequence of changes in the velocity of physical growth is unlike anything which comes afterward. The sequence lasts from four and one-half to seven and one-half years and is completed somewhere between the ages of fifteen and eighteen years in girls; between seventeen and twenty years in boys.

Transescence is also a period of change physiologically as related to the reproductive system. Transescent sexual development begins a few years prior to the onset of puberty. Nathanson, Towne, and Aub[5] indicate that between the ages of nine and twelve an increase in production of estrogens, the female hormone, occurs in the young girl. This marks the onset of changes in the psychological and physical transformation of the girl into a woman. This change is highlighted by the onset of menarche usually occurring at approximately age thirteen according to Jersild[6].

Ramsey's[7] findings indicate a similar but less accelerated set of processes in the boy. He discloses, based on 291 case histories, the following percentages in relation to chronological age: at age ten 1.8 percent had experienced ejaculation and by the end of age fourteen 87.3 percent had this experience. Voice changes had occurred in 3 percent of the cases at age ten and 86.4 percent by the end of the fourteenth year. Relative to the growth of pubic hair, 3 percent had

begun this growth at age ten while almost all boys in this sample, 95.7 percent had pubic hair by the end of age fourteen.

These changes in the years 10 to 14 indicate a significant similarity of characteristics peculiar to this level of development. Likewise, they cause a common set of social and emotional reactions which are different than those represented by children of the elementary or high school levels. Strang[8] succinctly points out, "Biological changes give rise to physical sensations, these are translated into emotional states, which in turn may be expressed in social behavior. Slow or rapid growth, unevenness of growth, or abnormalities of growth may affect an adolescent's total development." Stone and Barker[9] found that a greater proportion of post menarchial than premenarchial girls of the same chronological age have a greater interest in personal adornment, are less interested in vigorous activities, but more interested in daydreaming activities. Faust[10] discovered that prestige was enhanced among girls if menstruation occurred relatively early in grades six to nine. Earlier biological development would have little significance if it were not for the relationship between physical growth and social development. Eichhorn[11] indicates in this regard, "...maturing at an earlier age creates personal needs which challenge personal security."

Mental maturation, like physical development, is in transition during the middle school years. Stage level psychologists such as Piaget present strong argument that during the transescent years youngsters move from one stage of cognitive development to a higher stage. It is during transescence that most youngsters acquire the ability to think logically. Bruner[12] states, "Somewhere between 12 and 14 years of age, with the development of ability to reflect upon thought itself, the adolescent begins to show the marks of formal thinking. He is now ready to take his place as a scientist, a thinker, a spinner of theory."

.. final dimension of transescence which labels this group unique is the transition from dependence on the family for security to a similar dependence on the peer group. Prior to transescence, the elementary child is heavily reliant on the family for interests, attitudes, and values. After transescence, the adolescent is clearly reliant with regard to these aspects of human relations on his peer group. Coleman[13] cites in this regard, "With his fellows, he comes to constitute a small society, one that has most of its important interactions within itself and maintains only a few threads of connection with the outside adult society." Clearly, the changes in the transescent's mode of interaction which occurs in the years 10 to 14 are highly indicative.

By pursuing this assumption of compatibility to its logical conclusion, one infers that a significant function for the emerging middle school is to create a school in which the climate and programs are carefully designed to meet the characteristics and needs of a unique group of youngsters.

The second assumption also relates to the nature of the transescent. Unlike the first assumption, however, it attempts to ascertain the status and trends of growth and development.

Assumption: Students today in the years 10 to 14 possess growth characteristics which are significantly different from the growth characteristics of the same age students during the early decades of this century.

There exists today a growing body of research evidence indicating significant changes in human growth and development. Primarily, these changes are occurring in the physical and sexual development patterns of middle school boys and girls. Tanner[14] reports in this regard:

> During the last 100 years there has been a striking tendency for the time of adolescence, as typified by menarche or the growth spurt to become earlier. The data on heights and weights of children born in the 1930's or 1950's for example were considerably larger than those born in the 1900's. . . .

The reported trend is similar throughout the Western world. Mills[15] suggests that this growth tide has resulted in a four-inch increase in stature in America and a steady year-by-year increase in height and weight among freshmen matriculating in American colleges. Meredith[16] states that in an age group from nine to fourteen years that, "Boys living in the United States today, white and Negro, are 6 to 8 percent taller and 12 to 15 percent heavier than was the case a half century ago." Espenschade and Meleney[17] in a comparative study involving youngsters in the same school over a period from 1934-1935 to 1958-1959, found that girls in the later group were one inch taller and six pounds heavier and that boys in the more recent study were over two inches taller and ten pounds heavier.

This maturation trend is similar in all body areas. Clements, Davies-Thomas, and Pickett[18] report a trend toward earlier eruption of teeth in the pubescent group. Similarly, Tanner[19] indicates that myopia is a frequent condition in pubescents and that myopia is occurring at an earlier age.

Commensurate with earlier growth trends, a similar situation exists in the earlier onset of sexual maturation. Tanner[20] strengthens this point by relating:

> The acceleration of growth is also shown in the marked secular trend in the age of menarche. . . the average ages at menarche from 1830 to 1960 in Norway, Sweden, Finland, Great Britain and Germany, together with data from entrants to a women's college in the United States. . . . The trend is remarkably similar in all the series, and over the whole period plotted. Age at menarche has been getting earlier by some 4 months per decade in Western Europe over the period of 1830-1960. Other European data. . . and other

> American data, though not quite so regular, agree well with these figures. The trend in height and weight at about this age is closely equivalent to this amount of 4 months per decade, children of 10 thirty years ago having the size of children of 9 at present.

An American study by Gould and Gould[21] confirms this trend. These researchers discovered that daughters were menstruating .38 years sooner than their mothers.

The point that youngsters are attaining physical maturation at an earlier age would appear to suggest certain implications for reorganization of the 6-3-3 plan. Eichhorn[22] comments:

> . . . students presently placed in a sixth grade elementary setting possess much greater similarity of physical maturation and social interests with seventh and eighth grade students than they do with children in grades kindergarten through five. For similar reasons, the same phenomenon of earlier physical maturation and social interest patterns suggests that it is inadvisable to place most present ninth grade junior high school students with the transescent grouping.

Vars[23] concludes relative to the effect of earlier maturation, "Whatever the causes, it does appear that precocity is a characteristic of many transescents today, a fact that must be considered in designing a curriculum for this age group."

In a more subtle way, mental maturation also appears to be occurring earlier. The reasons for this development quite possibly lie in the fact that in our technological era youngsters through mass media, travel, mobility et.al. have increased experiential opportunities.

Experience plays a significant role according to Piaget the noted European scholar. Flavell[24] describes Piaget's position in this way:

> Experience is therefore not a simple and indivisible entity, homogeneous at every point in its development in its insistent pressure upon the subject. But what can this fact mean, Piaget argues, but that it is the nature of the subject's activity which will determine how and to what extent experiences undergone will be used to modify future behavior.

Inhelder and Piaget[25] comment on the role of education in this way:

> . . . the age of 11-12 years may be, beyond neurological factors, a product of progressive acceleration of individual development under the influence of education, and perhaps nothing stands in the way of a further reduction of the average age in a more or less distant future.

It seems likely that as technological and social experiences expand for youngsters of the elementary and middle school years, mental stage development will accelerate accordingly.

Throughout the first two assumptions, there has been primary emphasis on the transescents' nature and pattern of growth and development. In the third assumption, attention will be directed to outside forces as they affect the learner.

Assumption: <u>Societal forces of today suggest a new pattern of organization for the middle years.</u>

Increasingly all levels of education including the middle school are being considered a means of achieving a multiplicity of goals. These goals range from the integration of minority groups into the mainstream of American life to national survival. The internal grouping of youngsters as well as the curriculum which is taught are seen as vehicles to accomplish these purposes. As DeYoung and Wynn[26] reflect:

> When Russia preceded the United States in placing a satellite in outer space many people were sure that the sole fault lay with our schools . . . . When the number of cases of juvenile delinquency rises, there are those who see the cause clearly in the schools. If young people appear irreligious, it is concluded that the schools must be godless. If a soldier defects to the communists, the schools have failed to teach patriotism . . . . Schools often mirror the values and shortcomings of society.

In the early 1950's, the seemingly scientific superiority of the Soviet Union created the "urgent need" for an aggressive attack upon

American schools. Guilford[27] stresses this point:

> Two related events of very recent history make it imperative that we learn all we can regarding the nature of intelligence. I am referring to the advent of the artificial satellites and planets and to the crisis in education that has arisen in part as a consequence. The preservation of our way of life and our future security depend upon our most important national resource . . . .

The crisis in education to which Guilford alludes has resulted in considerable reshaping of the purposes of education for the transitional school. Previously accepted functions for this level such as academic exploration have given way to more vigorous academic pursuits. Bending partially under the pressure of Bestor, Smith et.al.[28] whose counter educational movement called Essentialism centered on a return to strict subject matter requirements, schools moved subject matter content of the high school particularly in mathematics and science to lower grade levels. National curriculum study groups staffed with scholars from all fields created new curricular programs designed to upgrade the educational process. These programs are now widely in effect in middle and junior high schools.

Just how significant these academic concerns are for the future can not be readily determined; nevertheless, it seems probable that they will increase in intensity as the knowledge explosion comes more into focus. One only has to turn to the developments in the field of cybernetics to become aware of this point of view. Smith and Smith[29] surmise that we find brain-like machines creating what promises to be increasingly fantastic mutations in our processing, absorption, retrieval, and dissemination of information.

Societal goals are also evidenced in the manner in which minority groups are arguing their cause for improved educational opportunity.

Cuff[30] concludes based on his national survey, "In some cities integration was clearly a factor, as new attendance districts were made to cross old neighborhood boundaries and bring a diverse population into the intermediate grades."

In urban areas where negro children are segregated through much of the first eight or nine years in school, a cogent reason appears to exist for reorganization. By crossing neighborhood lines and integrating boys and girls from all socio-economic districts, proponents believe that the middle school can by interrelationships act as a catalyst to create new and improved understanding. Senator Brooke[31] insists, "The foundation of our efforts to eliminate poverty in the United States and to restore the spirit and character of our great urban centers must be the development of a system of education adequate for and responsive to the practical needs of twentieth century American citizens."

The nature of population trends as they relate to increase and mobility is also having a significant impact on the status of school organizational patterns. School administrators challenged by increase in student enrollments causing present facilities to become inadequate have searched for housing arrangements which will not only accomodate students but also provide improved learning opportunities. Interestingly, early writers attributed, in part, the advent of the junior high school to similar pressures. Hartwell[32] stated in an early writing:

> When the seventh and eighth year pupils are placed under departmental teaching in separate buildings, the first year of high school will soon be added to their course, making an intermediate course of three years. This will relieve the high schools and save the immense expense of more high school buildings.

On the surface, it seems rather inane to consider buildings as a

significant force in creating a middle school; however, Gores[33] would take issue with this point of view. He states:

> Superintendents, headmasters, principals, and teachers, those charged with educating the young, have come to realize it is proper and necessary to spend time and thought on how the persons involved in and the processes of education may best be sheltered and served. Even the man on the street knows that the nature of the schoolhouse affects his children's learning.

In any discussion of contemporary culture, one must inevitably take into account the status of the American family and its effect on the transescent. The conjugal nature of the American family has significant undertones for school organization. The middle years of growth weigh heavily on the emotional fabric of youngsters. In a practical sense, guidance activities in middle schools must react to this precarious nature of the family-child relationship.

The industrial society family is succinctly described by Yamamoto[34] in an historical way when he relates, "Industrialization exacted further tolls in family autonomy by turning the flow of population back from farms to cities, taking fathers away from home, assigning wives to strictly housekeeping and child-rearing roles, and making liabilities out of children." Toby[35] furthers this understanding by citing, "The small conjugal family characteristic of industrial society tends to make children highly dependent on their parents. Other sources of emotional support are not readily available." The fact that this heavy reliance on parents often causes transescents undue stress is highly emblematic of our culture and does not, as Mead[36] points out, occur in other cultures.

The cultural impact on youth described in this assumption is impressive; however, what significance does it hold for school

reorganization? Again, attention must be focused on the transescent. Vars[37] in an insightful way comments:

> . . . each individual grows according to his own timetable, which varies from month to month and is not even the same for all aspects of his development . . . . A compounding of rapid change and highly variable individual growth patterns gives the middle school the most diverse student body of any school unit. A teacher quite literally faces a different group of children each time he meets a particular class . . . . Arising in part from the characteristics and heavily influenced by societal forces, young people have identifiable personal-social needs or developmental tasks.

Other scholars have reached the same conclusion. Havighurst[38] states, "The period from twelve to eighteen is primarily one of physical and emotional maturing . . . . The principal lessons are emotional and social, not intellectual."

As with so many aspects of the various assumptions presented, future cultural change and its effect on school organization is difficult to predict. Bridenbaugh's[39] analysis, however, gives one cause to expect relevant change. He relates:

> The nature of human existence has undergone "a great mutation". . . . So prevading and complete has been this change, and so complex has life become . . . that it now appears probable that mid-nineteenth century America or Western Europe had more in common with fifth century Greece . . . than with their own projections into the middle of the twentieth century.

Certainly, a school organization must be designed to take societal forces into consideration. A school model for the transitional age which is not reorganized to meet transescents' social and emotional needs is not likely to be successful.

A final assumption predicated on previous assumptions is submitted for consideration.

Assumption: Current and former organizational models no longer adequately serve the transescent.

Currently, there is professional dialogue centering on which grades should be incorporated into the middle school. Should the organization be composed of grades 6-7-8, 5-6-7-8, 7-8 or some other combination? In this respect, we are again indebted to Alexander for placing this topic into proper perspective. Alexander[40] sees the problem in a broader way. He states:

> The emergent middle school is more than merely a reorganized junior high school. In fact, considerable impetus to a new type of middle school comes from dissatisfaction with the program and organization of the upper years of the elementary school. Too, there is much support for a 4 year high school including the ninth grade. Thus the new middle school should be seen more as an effort to reorganize the total school ladder than just one of its divisions.

A close analysis of youngsters learning patterns in the upper elementary and early junior high school years suggests that any or all of these recommended graded patterns may not be the answer at all. Considering the wide divergence of achievement levels, physical development, and social interests of transescents, one is inclined to suggest an investigation of a pattern of organization which is nongraded and geared to similarity of characteristics rather than a sequence of grades. Glaser[41] based on intensive study of individualized learning indicates in this regard, ". . .the educators' goal of the individualization of student progress based upon student background, aptitude, and achievement will come closer to realization through school reorganization and the adoption of new practices." Eichhorn[42] furthers this concept by stating, "This study, in effect, suggests that the possible solution lies not in adjusted grade patterns, but rather in a functional school which takes into finite account the psychological principles of readiness

and maturation, knowledge of child growth and development, and the cultural interaction of students." In this way students would be grouped according to physical, social, mental and emotional criteria and thus would have the opportunity to progress individually within the framework of a formula including all of these components.

Similar introspection of the function of guidance creates an awareness that the counseling philosophy and techniques originally promulgated in the senior high school and more recently adopted in the junior high school need to be reexamined. Certainly, the middle school youngster needs to develop wholesome values and interests as a person and in this development needs to have constant opportunities to interact with adults who can assist him.

Alexander[43] puts forth a concept of guidance which deserves serious study in any effort to reshape this area of endeavor. He opines:

> The middle school child needs and should receive counseling on many matters. Hopefully, each of his teachers counsels him at times regarding his learning opportunities and progress in the respective curriculum areas. In addition, he needs one adult at school to whom he can go for information and assistance regarding any problem which relates to his participation in the school program . . . . In view of the numbers problem which plagues schools at all levels, there seems little hope that the middle school can have sufficient trained counselors to provide a ratio of counselors to children small enough that each child can have immediate access to his counselor. Furthermore, there is value in a relationship of teacher and pupils which involves a teacher in the initial counseling of each child. . . .

Guidance programs in the middle school should involve more than counseling interaction per.se. They should permeate the total environment of the school. Eichhorn[44] relates:

> The guidance function is most logically considered an integral part of the total educational program of the middle school. By creating an environment, a curriculum, and grouping procedures commensurate with the characteristics and

> needs of transescence, an educator in reality is creating a school which is based on guidance.

Beyond instructional and guidance programs, there is a need to analyze the junior high school as we have known it. The junior high school born in the early decades of the twentieth century clearly confirmed the need for a school organization to meet the needs of youngsters moving from childhood to adolescence. Popper[45] argues:

> Its pioneer in the United States meant the middle school to serve as a transitional unit between childhood education in the elementary school and later adolescent education in the high school. Pupils between these two stages of maturation, standing at the threshold of puberty were to be assigned to a middle school.

There can be little doubt that the junior high school met this original function. Approximately sixty years later, the junior high school is an integral part of the American educational system. Grambs et.al.[46] indicate that approximately 82 percent of secondary pupils are in districts which include some special kind of institutional arrangement to provide for the junior high school years.

Ironically despite this impressive growth, there has been a constant and eroding voice of criticism. Noar[47] typifies this reaction, "The junior high schools, originally founded to meet the need for education . . . have generally been accused of falling short of helping children for whom they are designed."

Challengers to the 6-3-3 organization do not take issue with its fundamental purpose but rather seem to direct their criticism to educational and social programs embodied in its framework. In a very real sense, these programs have not been unique to the transitional school, but rather have been modified after the adolescent programs of the senior high school. Extra curricular activity programs, interscho-

lastic athletics, feeder bands, prom type dances, and homeroom guidance programs constitute a few of the isomorphic ties with the senior high school. Rice[48] cites in this vein:

> The pattern of the junior high school closely parallels the senior high school, but with so little evidence to justify it. It apes the senior high school in athletics, social events, class scheduling, and departmentalization. Its curriculum is pushed down from the grades above it, so that in all too many instances it really is a prep school for the senior high school.

In addition to being imitative, the junior high school instructional programs have been considered hybrids with little continuity of methodology.

Grambs et.al.[49] intimate that the organization is a coalition by relating:

> The seventh and eighth grades, while formerly restructured in the direction of secondary school patterns, retain some of the flavor, character, and content of the elementary school. The ninth grade brought into the junior high school from the senior high school is closely tied to the forms and traditions of the latter . . . . Contemporary criticism may be attributed in part to internal conflict within the present structure.

Finally and perhaps most significant, the junior high school has not had the benefit of a cadre of teaching personnel sympathetic to the objectives of the transitional unit. All too often lacking the prestige and status of either the elementary or high school teacher, the junior high school staff member strives to improve his competencies in order to gain a "promotion" to the senior high school.

Epilogue

Organizational change in the school systems of America have occurred as a result of diverse need and pressures of society. Lounsbury[50] states relative the emergence of the junior high school:

> In some instances, even the champions of the junior high school movement came from different philosophical camps. College men advocated reorganization for economy of time. Public school leaders were concerned over better meeting immediate needs and saw the junior high school as a means of doing this. Board of education members may have seen reorganization as an economy move, while teachers may have supported reorganization because it would bring about new and improved special facilities . . .

The middle school reorganization movement appears to be emerging also due to diverse need and pressures. In many ways, conditions are analogous to those which sparked the 6-3-3 movement. There is a new awareness and understanding of the changing nature of human growth and development. Societal forces are placing far reaching demands on education. There is increasing dissatisfaction with present organization. All of which appears to be fundamental to an emerging rationale for all aspects of public education.

The impetus generated by these forces present the educator with an opportunity and challenge to create for youngsters of the middle school years an educational program tailored to their unique stage of development.

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